

REMARKS

Claim 15 has been amended to specify the steps of heating the hydroxide sludge to a temperature of at least 1000°C, allowing the hydroxide sludge to cool to ambient temperature, and crushing the cooled hydroxide sludge.

The steps specified in claim 15 contemplate two possibilities. First, the heating of the hydroxide sludge results in sintering of the hydroxide sludge. Accordingly the sintered hydroxide sludge cools and the step of crushing the cooled hydroxide sludge is applied to the sludge in the sintered state. Alternatively, the heating is to a temperature that is above the sintering temperature and is sufficient to melt the hydroxide sludge. When the molten hydroxide sludge cools, it solidifies and the step of crushing the cooled hydroxide sludge is applied to the sludge that has melted and resolidified.

The examiner has rejected claims 15-19, 29 and 30 under 35 USC 103 over Eklund in view of Lintz. Applicant believes that the amended claim 15 clearly distinguishes the claimed subject matter over the disclosure of Eklund and Lintz.

The examiner relies on Eklund as disclosing a method for treating pickling liquid from a steel manufacturing process by addition of an alkali to produce a hydroxide sludge. The examiner acknowledges that Eklund does not disclose calcining, i.e. heating, the hydroxide sludge. The examiner asserts that Lintz discloses that fluorspar is heated to temperatures below the melting point to dehydrate and strengthen it. More specifically, Lintz discloses that salt water may be added to fluorspar concentrates to create a moist mix that can be molded to form briquettes and that the briquettes can then be dried and sintered. Applicant submits that this disclosure in Lintz of adding salt water to concentrated fluorspar and then removing the water during a sintering operation would not suggest to a person of ordinary skill in the art that the hydroxide sludge of Eklund should be dried and sintered. Thus, the salt that is included in the water that Lintz teaches should be added to the fluorspar

concentrates is essential to the strengthening operation: "... the salt fused and began to dissolve the calcium chloride ... thus giving strength to the briquettes." Lintz, column 2, lines 19-22.

Since the strengthening disclosed by Lintz arises due to the presence of salt in the water that is added to the fluorspar concentrates, there is no basis for inferring that strengthening of the hydroxide sludge of Eklund would result from heating. In any event, the strengthening occurs due to formation of the eutectic mixture of salt and calcium fluoride, it being noted that the fluorspar concentrates of Lintz may contain a high proportion of calcium fluoride whereas the hydroxide sludge produced by Eklund contains only about 1% by weight calcium fluoride.

Eklund teaches that various residues containing metals and/or metal oxides and/or metal hydroxides are mixed with the hydroxide sludge (containing up to 70% by weight dry solids) and an admixture containing, for example, waterglass and/or molasses and that the mixture hardens, solidifies or polymerises into an essentially solid product.

The disclosure by Lintz of heating the briquettes is not sufficient to suggest to a person of ordinary skill in the art that the hydroxide sludge of Eklund (or the mixture of hydroxide sludge and residues) should be heated to strengthen the sludge. Eklund does not disclose that the hydroxide sludge alone should be formed into a solid body but that a mixture of the hydroxide sludge and the metalliferous residues should be formed into a solid body by addition of the admixture containing waterglass and/or molasses. It would not have been obvious to a person of ordinary skill in the art in view of Lintz to form the hydroxide sludge of Eklund into a solid body.

In view of the foregoing, applicant submits that the subject matter of claim 15, as now amended, is not disclosed or suggested by Eklund and Lintz, whether taken singly or in combination.

Therefore, claim 15 is patentable and it follows that the dependent claims also are patentable.

Respectfully submitted,

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